IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Ronald J. Daley	Group Art Unit:	2419
Serial Number:	10/824,819	Examiner:	Sefcheck, Gregory B.
Filed:	April 15, 2004	Confirmation No.:	6680
Title:	Integrated Interface for a Communication System		

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPEAL BRIEF

Dear Sir:

Appellant submits this Appeal Brief subsequent to the filing of a Notice of Appeal on June 7, 2010. The fee for an Appeal Brief has previously been paid along with the Appeal Brief dated June 12, 2009, as such no fee is believed to be necessary. Any required fee may be charged to Deposit Account No. 08-0385 in the name of Hamilton Sundstrand Corporation.

Real Party in Interest

The real party in interest in this application is Hamilton Sundstrand, a United Technologies Corporation.

Related Appeals and Interferences

A notice of appeal in this application was previously filed on May 11, 2009. The notice of appeal was followed by a timely appeal brief, filed on June 12, 2009, and a subsequent re-opening of prosecution based on the appeal brief. There are no pending related appeals or interferences.

Status of Claims

Claims 7 and 10 were previously cancelled. Claims 1-6, 8, 9 and 11-17 stand rejected and are pending in the application. The rejections of Claims 1-6, 8, 9, and 11-17 are appealed.

Status of Amendments

All amendments have been entered.

Summary of Claimed Subject Matter

There are two independent claims (claims 1 and 8) in the application. Figure 1 is reproduced below for reference.

Independent claim 1:

Independent claim 1 is directed to an integrated interface 100, 118, and 120, for a communication system. The interface includes a bus repeater 100 with an initial data interface 114. [See page 3, paragraphs 13 and 14.] The initial data interface 114 couples the repeater 100 to the main data bus 102. The bus repeater 100 additionally includes a second data interface 116 which couples the repeater 100 to an extended bus 104 and a bus idle detection circuit. The bus repeater 100 additionally includes signal filtering and reconstruction control logic. [See page 5, paragraph 19.] A remote terminal 106 is in direct communication with the bus repeater 100, and either the remote terminal 106 or the bus repeater 100 are programmable devices. [See page 5, paragraph 18, and page 6, paragraph 23]. The programmable device is capable of being programmed and reprogrammed using a high level programming language. [See page 5, paragraph 18, and page 6, paragraph 23].

Independent claim 8:

Independent claim 8 is directed to a communication system which incorporates a main data bus 102, an extended data bus 104 and an integrated interface 100, 118, 120. The integrated interface 100, 118, 120 allows communication between the main data bus 102. The extended data bus 104 and includes a bus repeater 100 and a remote terminal 106. [See page 3, paragraphs 13 and 14.] The bus repeater 100 includes a transceiver 114 which couples it to the main bus 102 and a

transceiver 116 which couples it to the extended bus 104. [See page 3, paragraph 14.] The bus repeater 100 additionally includes signal filtering and reconstruction control logic. [See page 5, paragraph 19.] The remote terminal 106 is in direct communication with the bus repeater 100, and a central computer 107 is in communication with the main data bus 102. [See page 3, paragraphs 13 and 14.] At least one of the data buses 102, 104 and the remote terminal 106 are programmable and reprogrammable and are capable of being programmed using a high level programming language. [See page 5, paragraph 18, and page 6, paragraph 23].

Figure 1

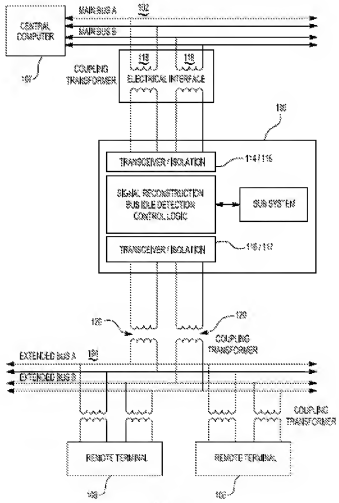

Fig-1

Grounds of Rejection to be Reviewed on Appeal

I. The rejection of claims 8, 9, 11, 12, 14, 15, and 17 under 35 U.S.C. §103(a) as being unpatentable over Admitted Prior Art (APA) in view of U.S. Patent 5337413 to Lui (hereinafter "Lui") and U.S. Patent Application 2003/0177144 to Hover (hereinafter "Hover."), and further in view of U.S. Patent 6701402 to Alexander (hereinafter "Alexander") is appealed.

II. The rejection of claims 1-6, 13, 16 under 35 U.S.C. §103(a) as being unpatentable over APA in view of Lui and Hover is appealed.

Argument

I. Rejection of Claims 8, 9, 11, 12, 14, 15, and 17 Under §103(a)

All claims:

Claim 8 of the present application is directed to a communication system, comprising: a main data bus; an extended data bus; an integrated interface that forms a communication link between the main data bus and the extended data bus, the integrated interface comprising a bus repeater having a first transceiver to couple with the main bus and a second transceiver to couple with the extended bus and having signal filtering and reconstruction control logic, and a remote terminal in direct communication with the bus repeater; a central computer in communication with the main data bus; and wherein at least one of the bus repeater and the remote terminal is a programmable device capable of being programmed using a high level programming language and capable of being reprogrammed.

The Supreme Court defined the standard for establishing 35 U.S.C. §103 obviousness in KSR v. Teleflex. Obviousness under *KSR International Co. v. Teleflex Inc.* 550 U.S. 398, 127 S.Ct. 1727, 82 U.S.P.Q.2d 1385 (2007) requires a reason for combining the elements of the prior art in the manner claimed. There must be an articulated reasoning with some rational underpinning to support the conclusion of obviousness, and the reasoning should be made explicit. *Id.* at 1395.

Regarding claims 8, 9, 11, 12, 14, 15, and 17, the Examiner has interpreted the bus

repeater (4) of Lui as the claimed bus repeater, the control logic of Lui's FIG. 2 (reproduced below) as the claimed signal filtering and reconstruction control logic, and Lui's monitor logic (5) as the claimed remote terminal. As can be seen in Lui's FIG. 1 (reproduced below), bus repeater (4) only includes host interface transceiver (6) and drive interface transceiver (7) but lacks any signal filtering and reconstruction control logic. The control logic of Lui's FIG. 2 corresponds to the control unit (9), which is part of Lui's monitor logic (5) of Lui's FIG. 1 not the bus repeater (4). Notably, claim 8 recites, "a bus repeater having a first transceiver to couple with the main bus and a second transceiver to couple with the extended bus and having signal filtering and reconstruction control logic". Lui's control unit (9) is not part of Lui's bus repeater (4).

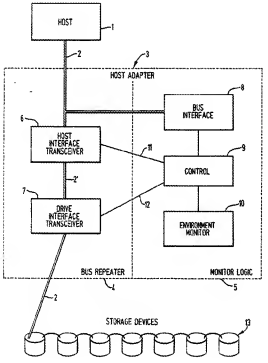

FIG. 1

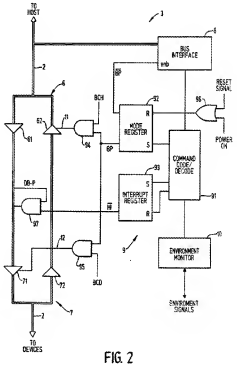

FIG. 2

Under the Examiner's interpretation of Lui, the signal control logic is contained within the remote terminal (monitor logic 5) and is not a component of the bus repeater (4). Instead, the control logic is a component of the remote terminal and provides external controls to the bus

repeater (see Figure 2). This interpretation is directly contradictory to the argument that the bus repeater contains "signal filtering and reconstruction control logic," as is required by the claim. Since the Examiner's interpretation of the reference is incompatible with the claimed feature, prima facie obviousness has not been established, and the rejection is improper.

Claim 8 also recites, "a remote terminal in direct communication with the bus repeater." In Lui, the host processor (1) is in communication with either the bus repeater (4) or the monitor logic (5), but the bus repeater (4) and the monitor logic (5) are not in direct communication with each other. Lui's communication is performed on an interface bus (2), not on the control lines (11, 12). Lui states, "The host adapter 3 is selectably switchable between two modes of operation. In the 'Bypass Mode' the drive interface transceiver 7 is coupled through the host interface transceiver 6 to the host processor 1. In the 'Monitor Mode,' the monitor logic 5 is coupled to the host processor 1." (Lui, col. 4, lines 47-52). While Lui's control lines (11, 12) drive enable/disable signals from the control unit (9) of monitor logic (5) to control bus drivers (62, 71) of host interface transceiver (6) and drive interface transceiver (7) in Lui's FIG. 2, the control lines (11, 12) are not considered to be communication links by Lui. Lui states, "In the Bypass Mode, both the host interface transceiver 6 and the drive interface transceiver 7 are enabled, and the bus interface unit 8 in the monitor logic 5 is disabled. Hence, environment conditions detected by the environment monitoring unit 10 cannot be communicated to the host processor 1." (Lui, col. 4, lines 60-65). In other words, the monitor logic (5) cannot communicate through the bus repeater (4). Lui also states, "Thus, in the Monitor Mode, the only bus communication is between the host processor 1 and the bus interface unit 8, over the connecting interface bus 2" (Lui, col. 5, lines 23-26). Lui's bus repeater (4) does not act as a bus repeater with respect to the monitor logic (5); the bus repeater (4) only acts as a bus repeater with respect to storage devices (13). For at least these reasons, Lui fails to teach or suggest, "a remote terminal in direct communication with the bus repeater", as recited in claim 8 and the rejection is improper.

Furthermore, in order to establish obviousness of claims 8, 9, 11, 12, 14, 15, and 17 the Examiner relied on Admitted Prior Art (APA), in view of Lui, and Hover. The Examiner's position is that Lui's disclosure of "controlling a direction of data through the bus repeater" and

"permitting signals to pass" read upon the claimed "filtering" even though the term "filter" or "filtering" is not explicitly used. The Examiner cited Col. 7, lines 20-67 and Col. 4, lines 39-42 of Lui as evidence supporting this position. The Examiner's interpretation of the term "filtering" is improper. As defined in the current specification, "signal filtering may include data validation, synchronization, and data bit extraction," (see paragraph 19). These filtering functions are further described in paragraph 0021 of the specification as being used to "process the data sent through the bus repeater 110." It would, therefore, be apparent to a person of ordinary skill in the art that the claimed signal filtering is directed to manipulation of the data signal and merely controlling the direction of the data and permitting the data to pass (as is disclosed in Lui) would not read on the claimed filtering.

Additionally, Hover is relied on solely to show the utilization of a high level programming language and does not teach or make obvious the above described feature. Therefore, the rejection of claim 8 under 35 USC 103(a) does not establish prima facie obviousness and is improper.

Claims 9, 11, 12, 14, 15 and 17 each depend from claim 8, and as such, incorporate each of claim 8's limitations. Therefore, prima facie obviousness has not been established and the rejections of claims 8, 9, 11, 12, 14, 15, and 17 should be reversed.

II. Claims 1-6, 13, 16 were rejected under 35 U.S.C. §103(a)

All Claims:

As with claim 8 above, prima facie obviousness of claims 1-6, 13, and 16 under 35 USC 103(a) has not been established with regards to APA in view of Lui and Hover, and further in view of Alexander. Regarding the subject matter of claim 1, the cited references contain the same deficiencies as are described above with regards to claim 8 in Argument Section I, particularly the deficiencies described in paragraphs 3, 4, and 5. Claim 1 contains the same features of "An integrated interface for a communication system, comprising: a bus repeater having a first data interface to couple with a main bus and a second data interface to couple with an extended bus and having signal filtering and reconstruction control logic; a bus idle detection circuit in the bus repeater; a remote terminal in direct communication with the bus repeater; and

wherein at least one of said bus repeater and said remote terminal comprises a programmable device capable of being programmed using a high level programming language and capable of being reprogrammed" as are found in claim 8. Consequently, the appellant's arguments with regard to claim 8, found in Section I, are additionally applicable to claims 1-6, 13, and 16.

Alexander is relied on only to illustrate bus idle detection circuitry in the bus idle repeater, and Hover is relied on only to disclose the utilization of a high level programming language. Since Lui does not disclose or teach the filtering or reconstructing, and Alexander and Hover are relied on for other features, the rejection under 35 USC 103(a) of the claim 1 is improper. Prima facie obviousness has not been established for the rejection of claims 1-6, 13, and 16 under 35 U.S.C. 103(a) for the reasons described above in Argument Section I, and the rejection of claims 1-6, 13, and 16 should be reversed.

CLOSING

For the reasons set forth above, the final rejection of claims 1-6, 8, 9, and 11-17 is improper and should be reversed.

Respectfully submitted,

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CLAIMS APPENDIX

1. An integrated interface for a communication system, comprising:

a bus repeater having a first data interface to couple with a main bus and a second data interface to couple with an extended bus and having signal filtering and reconstruction control logic;

a bus idle detection circuit in the bus repeater;

a remote terminal in direct communication with the bus repeater; and

wherein at least one of said bus repeater and said remote terminal comprises a programmable device capable of being programmed using a high level programming language and capable of being reprogrammed.

2. The integrated interface of claim 1, wherein the first data interface is a first transceiver and the second data interface is a second transceiver.

3. The integrated interface of claim 2, wherein at least one of the first and second transceivers includes analog-to-digital conversion circuitry and includes digital-to-analog conversion circuitry.

4. The integrated interface of claim 1, wherein at least one of the bus repeater and the remote terminal is a programmable device.

5. The integrated interface of claim 1, wherein the signal filtering and reconstruction control logic reconstructs received data and controls a transmit/receive direction of data through the bus repeater.

6. The integrated interface of claim 5, wherein the signal filtering and reconstruction control logic is in a reprogrammable device in the bus repeater.

8. A communication system, comprising:

a main data bus;

an extended data bus;

an integrated interface that forms a communication link between the main data bus and the extended data bus, the integrated interface comprising

a bus repeater having a first transceiver to couple with the main bus and a second transceiver to couple with the extended bus and having signal filtering and reconstruction control logic, and

a remote terminal in direct communication with the bus repeater;

a central computer in communication with the main data bus; and

wherein at least one of the bus repeater and the remote terminal is a programmable device capable of being programmed using a high level programming language and capable of being reprogrammed.

9. The communication system of claim 8, wherein at least one of the first and second transceivers includes analog-to-digital conversion circuitry and includes digital-to-analog conversion circuitry.

11. The communication system of claim 8, wherein the signal filtering and reconstruction control logic reconstructs received data and controls a transmit/receive direction of data through the bus repeater.

12. The communication system of claim 11, wherein the signal filtering and reconstruction control logic is in a reprogrammable device in the bus repeater.

13. The communication system of claim 8, further comprising a bus idle detection circuit in the bus repeater.

14. The communication system of claim 8, wherein the system is an aircraft communication system.

15. The communication system of claim 14, further comprising a plurality of remote device terminals in communication with the extended bus, wherein each remote device terminal is associated with an aircraft weapon.

16. The device of claim 1 wherein said programmable device is programmed in a high level programming language and wherein code resulting from said programming or said reprogramming can be ported to another device.

17. The device of claim 8 wherein said programmable device is programmed in a high level programming language and wherein code resulting from said programming or said reprogramming can be ported to another device.

EVIDENCE APPENDIX

None.

RELATED PROCEEDINGS APPENDIX

None.